



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,656	12/08/2003	Alessandra Satta	IMEC182.001C1C1	4954

20995 7590 05/11/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

NHU, DAVID

ART UNIT	PAPER NUMBER
----------	--------------

2818

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,656

Applicant(s)

SATTA ET AL.

Examiner

David Nhu

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/123,492; 09/644,636.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTIONS

Drawings

1. *Figure 1 should be designated by a legend such as—**Prior Art**—because only that which is old is illustrated. See MPEP & 608.02(g).*

Claim Rejections - 35 USC § 112

2. *The following is a quotation of the first paragraph of 35 U.S.C. 112:*

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 5** is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

It appears that the original specification does not have support for "n is an integer selected from the group consisting of 1, 2 **and** 3", which were not described/lack support in the specifications.

Double Patenting

4. **Claims 1-25** are rejected under the judicially created doctrine of obviousness-type double patenting over **claims 1-32 of U. S. Patent No. 6,664,192 B2** since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application and similar language recited in the patent claims obviously depict a similar method having either same steps and/or same materials, and such is also disclosed in both the patent and the instant application.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-25 are rejected under U.S.C 103(a) as being unpatentable over Background of Invention (BOI) in view of Sneh (6,200,893 B1).

7. **Regarding claim 1**, BOI, figure 1, pages 1-3, disclose a method of selectively depositing a layer on a substrate comprising: a first surface and a second surface, the method comprising: modifying the first surface; selectively depositing a layer on the second surface relative to the first surface.

It is noted that BOI fails to teach using an ALD process, wherein modifying the first surface blocks depositing by the ALD process.

However, Sneh, figures 1-3, and related text on col. 1-14, teach using an ALD process, wherein modifying the first surface blocks depositing by the ALD process.

Regarding claim 8, BOI, figure 1, pages 1-3, disclose a method of selectively depositing a layer on a substrate comprising: modifying a first surface of the substrate to prevent subsequently deposition of the layer thereon.

BOI fails to teach selectively coating over a second surface of the substrate as compared to the first surface by repeatedly alternating exposure of the substrate to at least two reactant fluids, each alternating exposure having a self-limiting effect.

Art Unit: 2818

However, Sneh, figures 1-3, and related text on col. 1-14, teach selectively coating over a second surface of the substrate as compared to the first surface by repeatedly alternating exposure of the substrate to at least two reactant fluids, each alternating exposure having a self-limiting effect.

Regarding claim 21, BOI, figure 1, pages 1-3, disclose a method of selectively blocking formation of a thin film by an ALD process on a first surface compared to a second surface comprising: selectively modifying the first surface.

BOI fails to teach alternating contacting the first and second surfaces with vapor-phase reactants to selectively deposit a material over the second surface relative to the first surface in an ALD process.

However, Sneh, figures 1-3, and related text on col. 1-14, teach alternating contacting the first and second surfaces with vapor-phase reactants to selectively deposit a material over the second surface relative to the first surface in an ALD process.

Regarding claims 2-25, see BOI, pages 1-3, and Sneh, col. 1-14, lines 1-67.

It would have been obvious to one having ordinary skill in the art at the time of the present invention to apply the teachings of Sneh into the method of BOI as both are related to the same subject matter of depositing films and conductive films on integrated circuits by an atomic layer deposition (ALD) process.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kim'572, Iacoponi'790, Gates'613 are cited as of interest.

9. A shortened statutory period for response to this action is set to expired 3 (three) months

Art Unit: 2818

and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).

10. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (571)272-1787.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956

David Nhu 

April 30, 2003

